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SLADE, Daniel D.

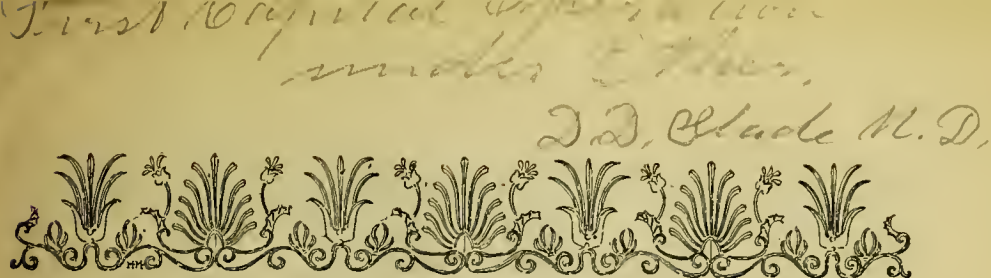
Historic moments: the first capital
operation under the influence of ether.
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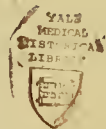
HISTORICAL
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IN A MEDICEAN GARDEN.

By Grace Ellery Channing.

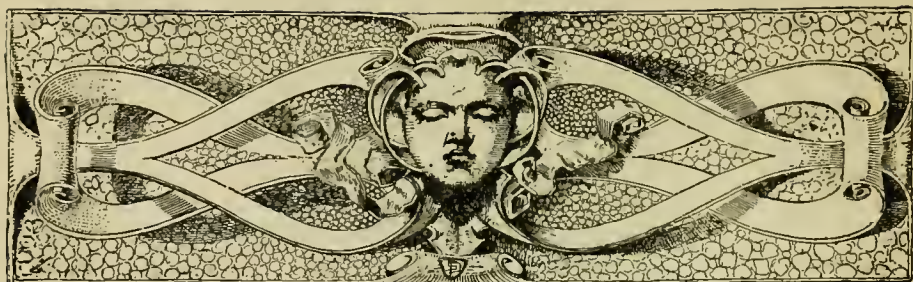
I know not why; but when the night is still,
And nightingales are pouring out their heart
From the ilex-shadowed thicket 'neath the hill;
When the soft fingers of the moonbeams part
Light leaves whence streams the hidden melody—
My listening heart grows faint, my dim eyes fill,
Slow tears from under heavy eyelids start
As drops fall from drenched flowers resistlessly.



Garden and grove grow dim, they change and fade
Like their pale lords—the vanished Medici;
They are the phantomed shadows of a shade;
It is not night nor earth nor Italy;
And that which sings within the silences—
I know him well!—no singer of the dark,
No alien bird, no foreign minstrel, he,
But mine own unsung, western-carolling lark—
Triumphant singer of the farthest day
Carolling earth, heaven and Italy away!

I've heard him in the new-world wilderness
Singing, sad nightingale, not notes like thine,
But plenteously poured forth like joyous wine
From an overflowing chalice. Loneliness
And sorrow were not then; the sunny plain
Filled and ran o'er with the melodious rain
Of music, and the golden-spacèd air
Trembled with happiness fine-felt and rare;
While over, over, over, high above,
Went lilting still the med-lark, love and love,
And joy and passionate joy and ecstasy;
O singer and O song, return to me!

I've known him send such strains to so far height,
Purple sierras shook beneath their veil,
And golden poppies drank the liquid light,
As down the molten music dropped and fell
Quivering, in notes of fire. O nightingale,
Thou art a silver singer, canst delight
Sad-hearted dwellers in the sad Old World,
With pallid chaplets of sweet song impearled
Upon a string of silence; but too pale,
Too wan for me thy passion, far too faint
The thrilling of thy melancholy plaint.
Thou art but love in sorrow—I have heard
Love's self sing westward from a golden-throated bird!



HISTORIC MOMENTS: THE FIRST CAPITAL OPERATION UNDER THE INFLUENCE OF ETHER.

By Daniel Denison Slade, M.D.

No discovery ever came upon the world more suddenly, or more completely fitted for immediate employment, than did that of surgical anæsthesia. Its advent was heralded by no signals which gave notice of the mighty power for good which it was destined to exert. Its presence, after the first few successful demonstrations, seemed as natural as the sunlight, and when experience had made more fully known the laws which govern this condition, its use became almost immediately established in the community which witnessed its birth. Those who were instrumental in its introduction have mostly passed away, and a new generation has since come upon the scene, as ignorant and heedless of the story of its origin as if centuries had flown by instead of a few decades.

Although it is the special object of the series of papers entitled "Historic Moments" to depict actual culminating scenes, without any extended notice of the facts and events which may have led up to them, yet, to a certain extent, a knowledge of such facts and events is essential to their proper appreciation, and must be productive of increased interest to the reader. This remark has peculiar application to the present article.

It is far from my purpose to venture even upon the edge of the Maelstrom of bitter controversy which, lasting for

several years, finally engulfed within its fatal embrace the practical discoverer of painless surgery. But it will be necessary to draw an outline of the individual to whom the civilized world owes this inestimable blessing, which it now so unwittingly enjoys, and who must, consequently, form the centre of the group which is to be called up from the realms of the past, in order to construct a truthful picture of that historical scene of which I was an eye-witness.

W. T. G. Morton was born at Charlton, Mass., August 7, 1819. His parents were of respectable Scotch descent. He received a common school and academic education, during which period of his life he resided for a short time in the family of a physician, where he acquired a taste for the medical profession. Being obliged to depend upon his own exertions for support, he left home at the age of seventeen years, and came to Boston, where he passed a few years as salesman and clerk in the book trade. Becoming dissatisfied with the business, and urged by his early fondness for medical pursuits, circumstances induced him to enter the Baltimore College of Dental Surgery, as a stepping-stone to the other branches. After two years of preparation he formed a partnership in the practice of dentistry with Horace Wells, at Hartford, Conn. This being dissolved in 1843, he removed to Boston, where he resumed his busi-

ness. In 1844 he entered his name as a student of medicine with Dr. Charles T. Jackson, of Boston, and in the winter of 1844-45 he matriculated at the Medical School of Harvard University, thus evincing his determination to become thoroughly educated in his profession. His necessities obliged him, however, to attend diligently to his dental business, a circumstance which interfered seriously with his studies.

While at Hartford he discovered a method of soldering false teeth to a gold plate, but requiring for its advantageous use the removal of remaining old roots. This painful process, not demanded by other dentists, proved a great injury to his pecuniary success. Morton directed his attention therefore to some method by which the anguish of this necessary step might be overcome.

Just previous to 1845 some fortunate experiments had been made by Horace Wells, the former partner of Morton, in the use of nitrous oxide gas as an agent for preventing pain in tooth extraction. But a public demonstration, which Wells gave at Boston, having completely failed, he abandoned his project, and even his occupation as a dentist. This partial success of Wells stimulated still more the efforts of Morton toward the end he had so constantly in view.

On a certain day a lady came to Morton's office to have a very sensitive tooth filled. By chance he applied some prepared chloric ether, which had been given him by Dr. C. T. Jackson, who had repeatedly used it as toothache drops. This had a benumbing influence upon the pain, and was, in fact, so successful that he was induced to institute an inquiry into the nature of this and other forms of ether. One of his students, in the course of conversation, also informed him that when a scholar at an academy he had inhaled sulphuric ether for amusement, without any unpleasant effects. Thereupon Morton was led to experiment upon animals, upon himself, and upon his assistants, discovering thereby the necessity for the use of pure rectified sulphuric ether, in place of the crude commercial article usually on sale by druggists. Finally, a painful tooth was pulled by Mor-

ton from a man, under the influence of its inhalation, without the least suffering.

As the mere extraction of a tooth, however, would not be sufficient proof of the insensibility to pain under many circumstances, Morton was induced to call upon Dr. John C. Warren, senior surgeon at the Massachusetts General Hospital, and to ask permission for the earliest opportunity to experiment in a surgical operation with a substance which would prevent pain. After some deliberation this request was granted, although the nature of the agent to be used was not at that time made known to Dr. Warren.

In the meantime Morton groped his way with various devices for the convenient administration of his "compound," and at last settled upon a glass globe with two necks, in one of which was placed a perforated cork, through which air was admitted, while to the other neck was attached a tube, with valves which opened and shut during inspiration and expiration, and through which the patient inhaled the vapor, given off from a sponge saturated with the agent and held inside the globe.

Morton, in a few days, received a note from Dr. J. C. Warren saying that he would offer him the desired opportunity to test his discovery at the hospital. Accordingly, on the day appointed, he went to the hospital, and there, in the presence of several medical men and students, he gave to the patient—a young man with a tumor upon the neck—his so-called "compound," by means of the apparatus just described. Although, as Dr. Warren subsequently stated, the anæsthesia was "imperfect," still the patient declared that he had felt no pain during the operation, beyond a certain disagreeable sensation as if the part had been scraped with a blunt instrument. This was the first case at the Massachusetts General Hospital in which an attempt was made with the new agent to alleviate the pain of a surgical operation.

Morton was asked to come on the next day and to repeat the experiment. He then again administered the preparation to a female, from whose shoulder a large fatty tumor was removed by Dr.

George Hayward. The operation was not a severe one, but the most complete insensibility was induced, and although long incisions were made in the skin, the patient was perfectly unconscious of pain.

After these first trials at the Massachusetts General Hospital the use of Morton's discovery was discontinued at that institution for several weeks. Nevertheless the discoverer himself continued to employ it in his dental practice, not always with perfect success, however, and in some cases even with serious consequences. This was attributable to inexperience, and to defective means of application.

The temporary discontinuance of Morton's agent at the hospital was due to various reasons. It was a secret mixture; moreover, it was a patented article; both of which facts unfitted it for the use of the regular practitioner. Its nature not being understood, its inhalation might, under circumstances not yet established, be followed by untoward, and even fatal symptoms. Professional etiquette and rivalry also played no small part in the withdrawal of its use. All these objections, however, were safely tided over. Moreover, Morton had at last undertaken to acquaint the hospital surgeons, by a letter addressed to Dr. Warren, senior, with the true nature of the agent used. Thus, all obstacles being removed, Morton administered his anodyne to a patient who was to undergo an amputation at the thigh.

At this point attention may properly be called to the element of mystery which hung over the early days of the introduction of the material which produced such wonderful effects. It was now the subject of general popular interest and attention, but its nature had not been made known to the public, or even to the medical profession. In fact there was never any authoritative announcement that the new discovery was simply sulphuric ether. It gradually became known that it was that substance, but it was never formally so stated. Its administration at the outset was conducted solely by Morton himself, who endeavored, by the admixture of foreign inert elements, such as fragrant essences, tinctures, etc., to disguise the peculiar

odor of the ether. Thus, in this new position in which he was placed, it was not unnatural that the illiterate should have looked upon him as a conjurer possessed of secret powers, or as the one might have been regarded who had discovered the Fountain of Perpetual Youth, so ardently and fruitlessly looked for by Juan Ponce de Leon and his followers.

A few words in regard to the Massachusetts General Hospital. Its existence was due to a few public-spirited and generous citizens of Boston. It was incorporated in 1811, and opened for the reception of patients in 1821. Charles Bulfinch, to whom the city of Boston owes the construction of many of its finest buildings, was the architect. It is constructed of hammered granite, and consists of a main building surmounted by a handsome dome, and of two wings, which were extended in 1846. It was thus, at this time, the largest and most important institution of the kind in New England, and the most complete and best organized in the country. It had acquired a widespread reputation, not only owing to the prominent position of its medical officers, but also by its connection with the Harvard Medical School, which, however, was wholly unofficial.

This fine building stood in the midst of a park-like garden, with noble trees and flowering shrubs, upon the banks of the beautiful bay forming the mouth of the Charles River. On this site it had a well-arranged bath-house, with facilities for fresh- and salt-water bathing. Within the walls of the hospital the appointments were of the very best. Its wide and airy halls, its stone stairways, the scrupulously clean and well waxed floors of the wards and private rooms, its curtained beds, and every article of furniture, and, above all, its skilled nurses, bespoke an attention to the primary objects of the institution, and to the comfort and care of its humblest patient. The dome contained a large and commodious operating-theatre, to become, in 1846, the starting-point of a discovery "which was destined to go around the world."

The day fixed for the memorable operation which was to add to the fame of

the Massachusetts General Hospital, was Saturday, November 7, 1846, at eleven o'clock. News of the expected event had been noised abroad, not only among the Harvard medical students, and the medical fraternity of Boston and its vicinity, but also among those of other professions who would be interested in an occasion of this character; so that not only all the seats, but every available place for standing, in the amphitheatre of the operating-room, was crowded with an anxious and expectant assembly, an hour or more before the appointed time. Spread out before them, and occupying the central space, just in front, was the operating-table, covered with linen of a snowy whiteness, rarely seen elsewhere, and for which the Hospital was noted. On the left, upon a convenient table, also protected by immaculate linen, were all the instruments and paraphernalia for the surgeon's use; while in the back of the room, handsome cases, in which artistically arranged surgical articles of every description, and adapted to any and all emergencies, were conspicuously placed. In one corner, in an erect posture, an Egyptian mummy, with a scarabæus on the end of its nose, looked calmly down upon the first scene of a new epoch, from its gayly adorned, wooden sarcophagus, the cover of which had been removed. In close contiguity, in a glass case discreetly veiled by curtains, hung a human skeleton, whose presence could only be conjectured from the peculiar form of its ghastly chamber. Hooks, rings, and pulleys inserted in the walls to aid in the reduction of dislocated limbs met the eye, happily for suffering humanity to be henceforth and forever discarded.

While the assembly was scanning these various objects, gazing upward also at the elegant and well-lighted dome, and taking cognizance of every trivial incident, as is customary with impatient crowds, the six hospital surgeons entered the room.

First and foremost among these was the senior Warren. A man rather above the medium height, possessing a thin, somewhat stooping form, his scanty gray hair carefully brushed away from the high forehead, the shaggy eye-

brows overhanging dark sparkling eyes, while the entire expression of countenance showed determination and coolness. In manners somewhat brusque and severe, his presence was commanding, and his word was law. As a surgeon he had continued for many years to hold the first rank, a position due not only to his unimpressible temperament, but also to his long and well-directed education. His lectures as Professor of Anatomy and Surgery in Harvard University were instructive, useful, and popular. In private life he was justly esteemed for his social and public-spirited qualities.

By his side was Dr. George Hayward, who was Professor of Clinical Surgery in the Medical School. Rather short in stature and thick set, he formed a marked contrast to his companion. His countenance was indicative of strong good sense, and his small, deep set, twinkling eyes suggested a certain *bonhomie* and a most amiable disposition. Having received his surgical education mostly in the English and French schools, his lectures were interesting, and contained frequent allusions to his former instructors. Although not a brilliant operator, his hand was guided by excellent judgment.

The round, full-faced man, with neatly trimmed side-whiskers and hair cut short, was Dr. S. D. Townsend. He was formerly a naval surgeon. This gave him a methodical manner of dress and bearing which easily distinguished him from his confrères. His experience as hospital surgeon had been large and varied. For his skill as an operator, his kindness of heart, and his unbending uniformity of character, he was much admired both by the patients and by the officers of the hospital.

Dr. J. Mason Warren, Dr. H. J. Bigelow, and Dr. Samuel Parkman, who completed the group of surgeons, had been recently appointed upon the surgical staff. The first had already become eminent as a surgeon and practitioner, and in the former capacity had shown that the mantle of the father had fallen upon the son. Always scrupulously particular as to the style and quality of his dress, even his great attention to these matters was not permitted to in-

terfere with his professional duties, which at this time were onerous. Slender, and even frail in form, he was erect and dignified in his bearing, while his countenance was expressive of a certain intellectual keenness, and of genuine sincerity. His amiability and pleasing manners had made him a great favorite with both sexes.

The other two gentlemen were both tall and dignified in person, and might well be termed handsome. They had both entered upon a career in their native city which promised excellent advantages to themselves, to their profession, and to the public at large. Dr. Bigelow, in particular, had already shown great executive ability, and in his dexterity and skill as an operator reminded me of the most famous surgeons of Europe.

These gentlemen, after their entrance, were soon grouped together and earnestly engaged in a low-spoken conversation upon a subject to which their attention had been evidently called before entrance. Suddenly, Dr. Bigelow left the room, and after a few minutes reappeared, held a brief but animated colloquy with Drs. Warren, senior, and Hayward, and again left. In explanation, it may be said that Dr. Bigelow was acting as an enthusiastic advocate for the expected experiment, about which it was apparent, even to the spectators, that there was some obstacle; and it was not until the very last moment that all scruples as to the course to be pursued were overcome, and the services of Morton, who was waiting in another part of the hospital, and the use of his compound, were determined upon.

Dr. J. C. Warren advanced, and taking from his pocket a letter addressed to him by Morton, read from its contents. The reading of this letter added to the interest of the listener, but by no means explained the causes which had led to its presentation, or its connection with the subject which had been the source of such earnest conversation between the surgeons; and no intimation was given to the audience by Dr. Warren as to the nature of the preparation which was to be used for the purpose of

making the impending operation painless.

And now the moment had fully arrived. Scarcely had the tall clock on the hospital stairway rung out the hour of eleven, when the side-door of the operating-theatre was widely opened, and the stretcher, upon which was laid a pale and emaciated girl of nineteen years, was carefully borne in by the united strength of two faithful ward-tenders, and attended by the two house-surgeons, Drs. C. F. Heywood and Alfred Lambert, the bright hectic flush upon her cheeks contrasting strongly with the white sheet which otherwise enveloped her entire form.

Alice Mohan had been an inmate of the Massachusetts General Hospital for the past eighteen months. Two months before her entrance, while walking on the ice, she had fallen and struck upon her right knee. She experienced considerable pain at the time, which was soon after followed by enlargement and sensitiveness of the joint, with increased suffering on motion of the limb. On her admission to the hospital an examination of the joint revealed considerable swelling and distinct fluctuation at the side and below the knee-pan, as also much tenderness on deep pressure. She was placed in bed and ordered to maintain perfect rest in a horizontal position, while various forms of local treatment were adopted. Thus she continued for weeks and months, at times comparatively free from pain, and again in much suffering. Gradually, however, in spite of all measures suggested, hectic and symptoms of constitutional disturbance made their appearance. The knee-joint having evidently become greatly disorganized, her attending surgeons determined to amputate the limb.

Such was the patient who was to undergo the first capital operation under the influence of an agent which was to annihilate forever afterward the agonies of surgery.

As all eyes were now fixed upon the scene before them, Dr. George Hayward stepped forward and remarked that, with the advice of the other surgeons, he should allow Mr. Morton to administer an article by inhalation to the patient upon whom he was about to oper-

ate, which it was alleged would prevent any pain from being felt.

Thereupon, Morton, a man of commanding figure and appearance, very erect, and dressed, as he usually was, in a stylish fashion peculiar to himself, consisting of a blue frock coat with brass buttons, a large and elegant scarf which completely filled up the open front of the waistcoat, "gaiter" trousers, etc., and bearing in his hands the instrument already described, came in from an adjacent room, and advancing to the operating-table, spoke a few words of encouragement to the patient and instructed her in the method of inhaling. The curiosity on the part of all present was intense. The stillness was oppressive, broken only by the hurried respiration and occasional sob of the patient. Grouped about Morton, standing as the central figure at the head of the operating-table, were the surgical and medical officers of the institution, as also the attendants, all as intent upon the unusual scene before them as were the most untired spectators in the seats of the amphitheatre.

In three minutes the patient was completely under the influence of the preparation, as shown by the complete muscular relaxation, the drooping eyelids, the immobile pupil, and the deathlike insensibility to external impressions. Morton now informing Dr. Hayward that his patient was ready, the assistants drew her body down upon the table, so that the lower limbs projected beyond its edge, the right one being duly supported. Dr. J. Mason Warren compressed the femoral artery at the groin. Dr. Hayward, grasping the soft parts of the front of the thigh, so as to bring them well out from the bone, pushed the long amputating knife through the flesh from the outside, transfixing the whole thickness of the thigh, and cutting outward, formed an anterior flap. This being slightly lifted up by his assistant, he then carried the knife in the same direction which it first took, but behind the bone, and again cutting outward, formed the second flap from the posterior surface of the thigh. The two flaps were then retracted by one of the surgeons while the bone was sawed. A slight unevenness of the bone remaining,

was made smooth by the bone-forceps. The principal artery was then secured by ligature, and four others were placed upon bleeding points. The loss of blood was very small. A compress, dipped in cold water, and retained in place by a few turns of a roller bandage over the stump, was the only dressing applied. The amputation occupied less than two minutes, not including the time consumed in tying the arteries. Dr. Hayward said afterward that he performed the operation rapidly, as he feared the insensibility might pass off, and that there were no means of continuing it as long as it might be desirable.

During the operation the patient remained in the most profound sleep, evincing not the slightest sensibility to pain until the tightening of the last ligature, when she uttered a groan, and then soon returned to partial consciousness. She was ignorant of the loss of her limb, and could hardly be persuaded of the fact.

The operation completed, and even before the removal of the patient from the room, the profound stillness and suspense which had hung over all present, was broken by loud murmurs of surprise and admiration at the success which had been attained. Morton was the hero of the hour, and was regarded with feelings akin to those which might have been awakened had an angel suddenly appeared, bearing waters from "the Lethean streams of oblivion," which having been administered to the suffering invalid, had produced the effects witnessed.

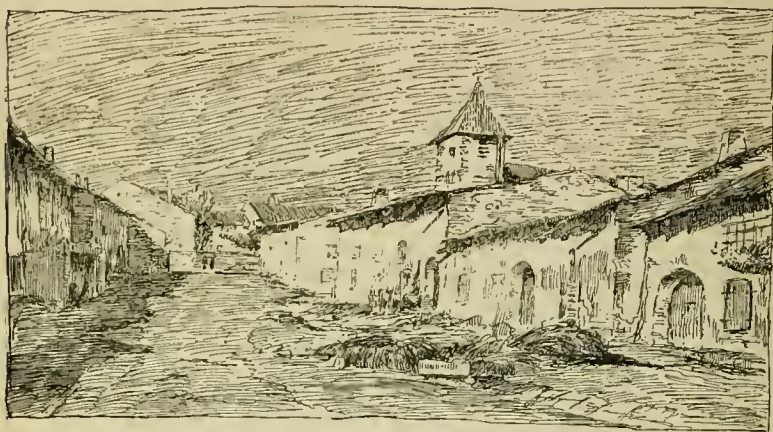
As the long procession passed out and down the hospital stairways, everyone was earnestly engaged in discussing the events of the past hour. The nature of the anodyne and its discoverer, the success of the operation under its influence, the operator, the patient, the cause of the long and mysterious discussion among the surgeons—each of these topics came in for its due share of attention. However much they may have differed on minor points, it was conceded that this was a demonstration which, from its magnitude, would carry to the scientific world a conviction, not merely of a possibility, but of the certainty, safety, and the completeness of the in-

sensibility capable of being produced during the severest surgical procedures. And with this conviction uppermost in their minds, the witnesses of the scene which I have imperfectly described, separated to their various avocations, little realizing then the value of the gift bestowed upon mankind, and which can hardly now, even after the lapse of nearly half a century, be sufficiently appreciated.

A glance at the Hospital records of that date informs me that, after the patient was brought down and placed in her bed, she complained of great pain in the knee and foot which had been removed, but that at two o'clock in the afternoon she revived, talked very pleasantly, and asked for some tea, which was given her. From this period her recovery was rapid. Her wound healed read-

ily, her general health improved, and, on December twenty-second, she was discharged "well."

It will be remembered that the first operation in which the attempt to administer sulphuric ether at the Massachusetts General Hospital, was not considered by the operator a complete success. This memorable incident in the history of anæsthesia has, however, been made the subject of a large painting, executed by the distinguished artist, Mr. Samuel Hinkley, of Washington, D. C. This work of art, both from the importance of its subject as well as from the merits of the painting itself, were it exhibited at the approaching Chicago Exhibition, would remind the beholders that the discovery of surgical anæsthesia is one of the glories which belong to the New World.



Accession no.

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Author

Slade, D.D.

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